

CLAIMS:

1. A compound material at least comprises a first high heat
conductive layer and a first electromagnetic interference (EMI) shielding
layer which are integrated together, among which the first EMI shielding
5 layer forms a plurality of pre-set compartmented portions .

2. The compound material as claimed in claim 1, wherein the first
high heat conductive layer and the first EMI shielding layer are
overlapped in a vertical direction thereof.

3. The compound material as claimed in claim 2, wherein the
10 arrangement of the compartmented portions of the first EMI shielding layer is
tessellated.

4. The compound material as claimed in claim 3, wherein the
compartmented portions are a plurality of EMI shielding blocks formed by
filling EMI shielding material into correspondent slots in a high heat
15 conductive sub-layer of the first EMI shielding layer.

5. The compound material as claimed in claim 4, wherein the EMI
shielding blocks are separately and alternately arranged in the heat
conductive sub-layer of the first EMI shielding layer.

6. The compound material as claimed in claim 5, wherein the EMI
20 shielding blocks are made from an electromagnetic wave absorbing
material

7. The compound material as claimed in claim 6, wherein the EMI
shielding blocks are integrated with the heat conductive sub-layer by
planography printing or insert-molding methods.

25 8. The compound material as claimed in claim 7, wherein the
compound material further comprises a second high heat conductive layer

which is overlapped on the first EMI shielding layer and opposite to the first heat conductive layer.

9. The compound material as claimed in claim 8, wherein the compound material further comprises a second EMI shielding layer which
5 is overlapped on the second heat conductive layer and opposite to the first EMI shielding layer.

10. The compound material as claimed in claim 9, wherein the second EMI shielding layer also includes a plurality of EMI shielding blocks, which are formed in a similar way as those of the first EMI
10 shielding layer and are staggered from the corresponding EMI shielding blocks of the first EMI shielding layer in the overlapped or vertical direction thereof.

11. The compound material as claimed in claim 10, wherein the compound material further comprises a third high heat conductive layer
15 which is overlapped on the second EMI shielding layer and opposite to the second heat conductive layer.

12. A compound material at least comprises a pair of overlapped high heat conductive layer and electromagnetic interference (EMI) shielding layer, the EMI shielding layer including a high heat conductive
20 sub-layer and a plurality of EMI shielding blocks thereby forming an EMI shielding net and a heat conducting track with the cooperation of the overlapped heat conductive layer in the meantime.

13. The compound material as claimed in claim 12, wherein the heat conductive sub-layer has a plurality of slots therein and a suitable EMI
25 shielding material is filled into the slots thereby forming the EMI shielding blocks thereof.

14. The compound material as claimed in claim 13, wherein the EMI shielding blocks are alternately and separately arranged in the heat conductive sub-layer.

15. The compound material as claimed in claim 14, wherein the EMI shielding blocks are integrated with the heat conductive sub-layer by planography printing or insert-molding methods.

16. The compound material as claimed in claim 15, wherein further comprises a second EMI shielding layer overlapped on the side of the heat conductive layer which is opposite to said EMI shielding layer.

17. The compound material as claimed in claim 16, wherein the second EMI shielding layer also has a high heat conductive sub-layer forming a plurality of slots therein and a plurality of EMI shielding blocks which is formed by filling EMI shielding material into the slots of the heat conductive sub-layer.

18. The compound material as claimed in claim 17, wherein the EMI shielding blocks of the second EMI shielding layer are arranged in a similar as the EMI shielding blocks of said EMI shielding layer.

19. The compound material as claimed in claim 18, wherein the EMI shielding blocks of the second EMI shielding layer are staggered from the EMI shielding blocks of said EMI shielding layer in the overlapped or vertical direction thereof.

20. The compound material as claimed in claim 12, 13, 16 or 19, wherein the material of the EMI shielding blocks of said EMI shielding layer and the second EMI shielding layer is a suitable electromagnetic wave absorbing material.

21. The compound material as claimed in claim 20, wherein the heat

conductive layer and the heat conductive sub-layer are formed by infiltrating Al_2O_3 powder into a suitable thermoplastic base material.